FIG. 1

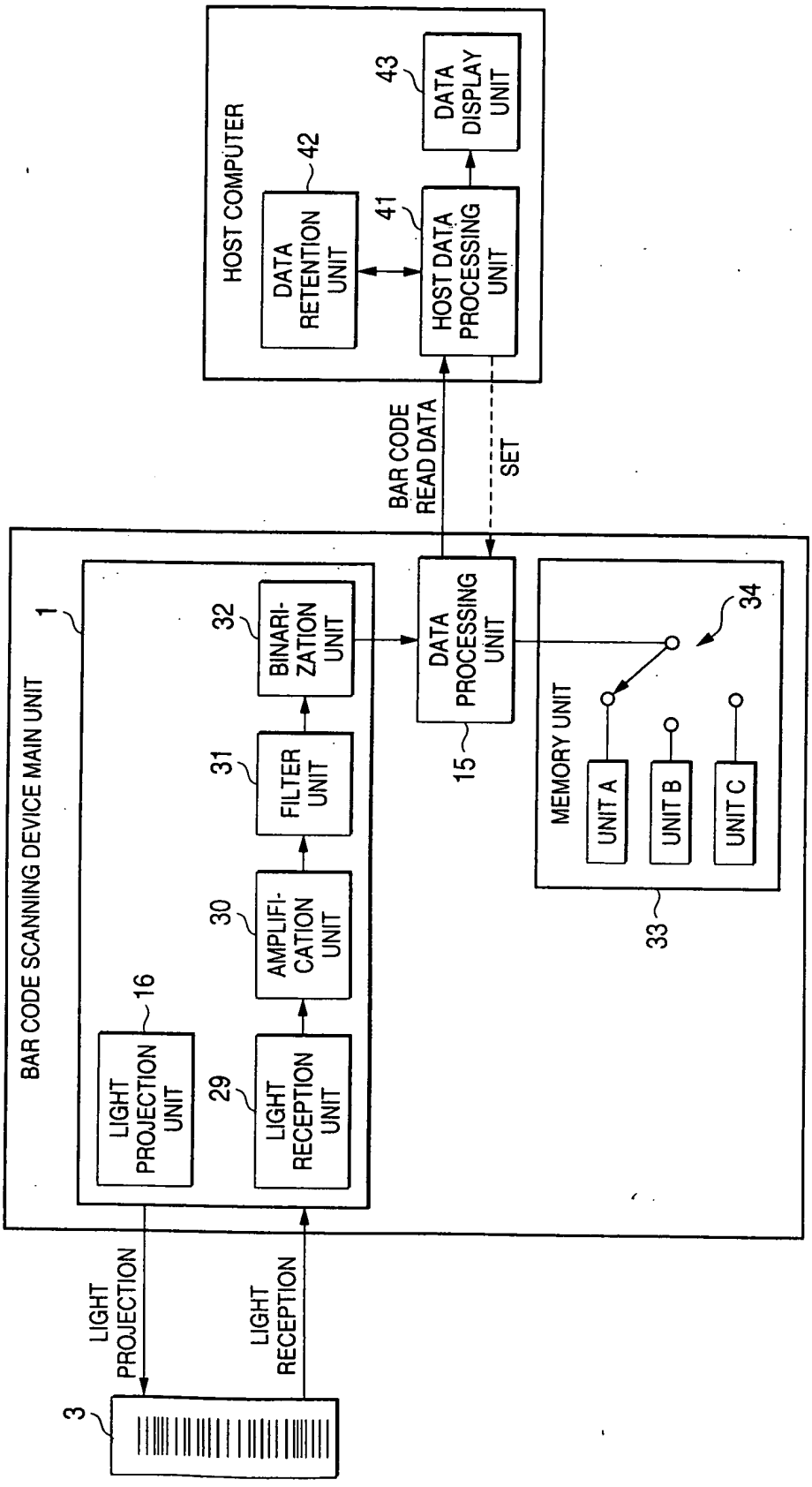
HOST COMPUTER
DATA RETENTION UNIT
42
HOST DATA PROCESSING UNIT
41
DATA DISPLAY UNIT
43
BAR CODE READ DATA
SET
BAR CODE SCANNING DEVICE MAIN UNIT
1
LIGHT PROJECTION UNIT
16
LIGHT RECEPTION UNIT
29
AMPLIFI-CATION UNIT
30
FILTER UNIT
31
BINARI-ZATION UNIT
32
DATA PROCESSING UNIT
15
MEMORY UNIT
UNIT A
UNIT B
UNIT C
33
34
LIGHT PROJECTION
LIGHT RECEPTION
3

FIG. 2

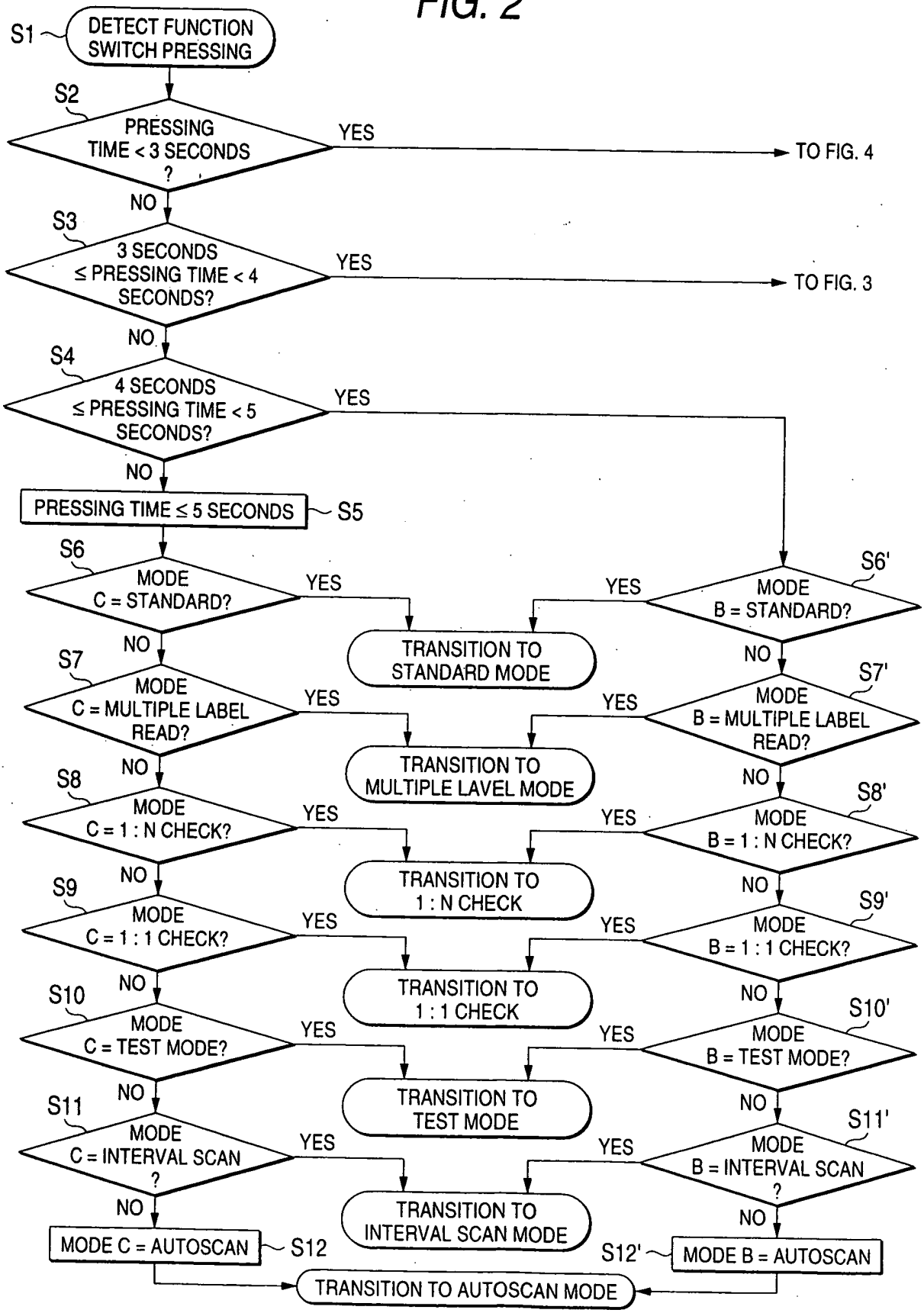
S1
DETECT FUNCTION SWITCH PRESSING
S2
PRESSING TIME < 3 SECONDS ?
YES
TO FIG. 4
NO
S3
3 SECONDS ≤ PRESSING TIME < 4 SECONDS?
YES
TO FIG. 3
NO
S4
4 SECONDS ≤ PRESSING TIME < 5 SECONDS?
YES
NO
PRESSING TIME ≤ 5 SECONDS
S5
S6
MODE C = STANDARD?
YES
TRANSITION TO STANDARD MODE
NO
S7
MODE C = MULTIPLE LABEL READ?
YES
TRANSITION TO MULTIPLE LAVEL MODE
NO
S8
MODE C = 1 : N CHECK?
YES
TRANSITION TO 1 : N CHECK
NO
S9
MODE C = 1 : 1 CHECK?
YES
TRANSITION TO 1 : 1 CHECK
NO
S10
MODE C = TEST MODE?
YES
TRANSITION TO TEST MODE
NO
S11
MODE C = INTERVAL SCAN ?
YES
TRANSITION TO INTERVAL SCAN MODE
NO
MODE C = AUTOSCAN
S12
S6'
MODE B = STANDARD?
YES
NO
S7'
MODE B = MULTIPLE LABEL READ?
YES
NO
S8'
MODE B = 1 : N CHECK?
YES
NO
S9'
MODE B = 1 : 1 CHECK?
YES
NO
S10'
MODE B = TEST MODE?
YES
NO
S11'
MODE B = INTERVAL SCAN ?
YES
NO
S12'
MODE B = AUTOSCAN
TRANSITION TO AUTOSCAN MODE

FIG. 3

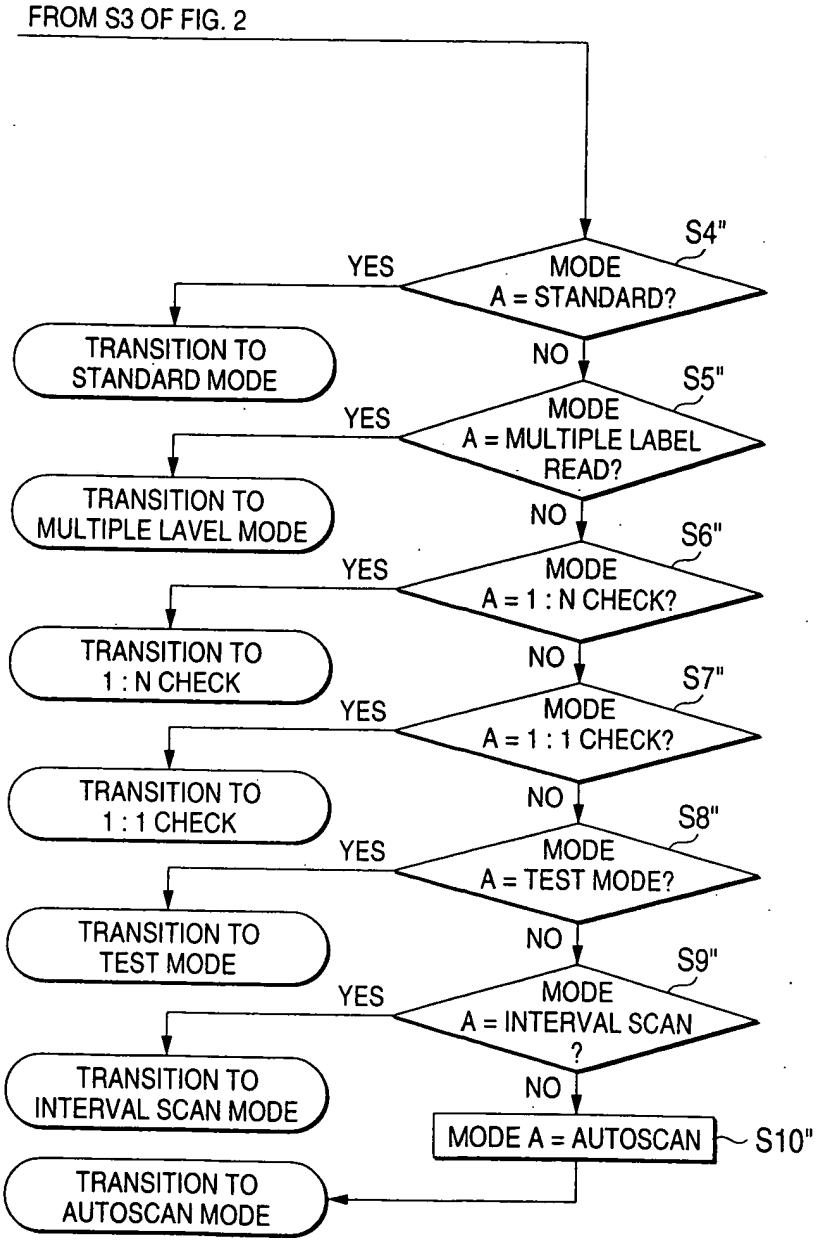
FROM S3 OF FIG. 2
S4"
MODE A = STANDARD?
YES
TRANSITION TO STANDARD MODE
NO
S5"
MODE A = MULTIPLE LABEL READ?
YES
TRANSITION TO MULTIPLE LAVEL MODE
NO
S6"
MODE A = 1 : N CHECK?
YES
TRANSITION TO 1 : N CHECK
NO
S7"
MODE A = 1 : 1 CHECK?
YES
TRANSITION TO 1 : 1 CHECK
NO
S8"
MODE A = TEST MODE?
YES
TRANSITION TO TEST MODE
NO
S9"
MODE A = INTERVAL SCAN ?
YES
TRANSITION TO INTERVAL SCAN MODE
NO
MODE A = AUTOSCAN
S10"
TRANSITION TO AUTOSCAN MODE

FIG. 4

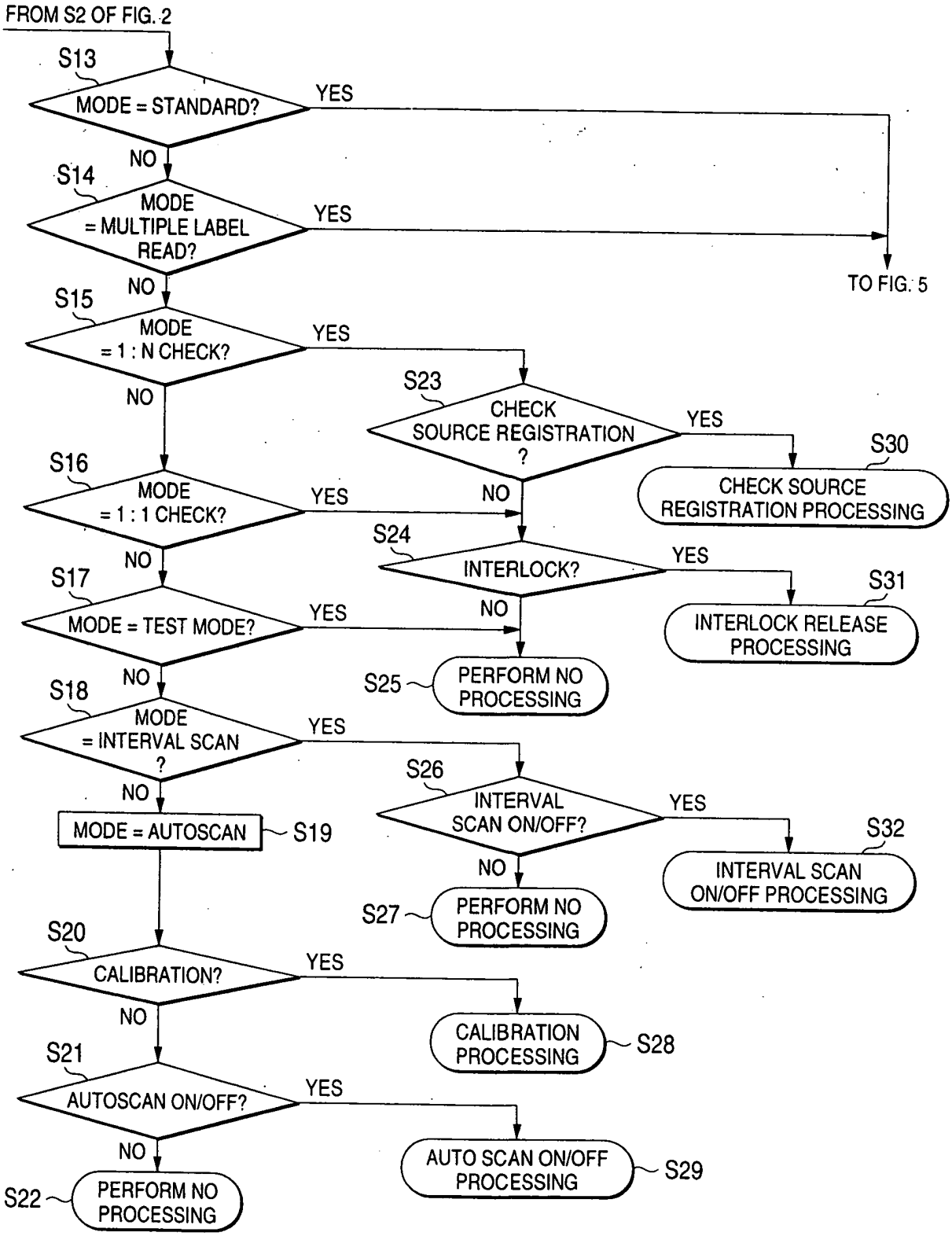
FROM S2 OF FIG. 2
S13
MODE = STANDARD?
YES
NO
S14
MODE = MULTIPLE LABEL READ?
YES
TO FIG. 5
NO
S15
MODE = 1 : N CHECK?
YES
NO
S16
MODE = 1 : 1 CHECK?
YES
NO
S17
MODE = TEST MODE?
YES
NO
S18
MODE = INTERVAL SCAN ?
YES
NO
MODE = AUTOSCAN
S19
S20
CALIBRATION?
YES
NO
S21
AUTOSCAN ON/OFF?
YES
NO
S22
PERFORM NO PROCESSING
S23
CHECK SOURCE REGISTRATION ?
YES
S30
CHECK SOURCE REGISTRATION PROCESSING
NO
S24
INTERLOCK?
YES
S31
INTERLOCK RELEASE PROCESSING
NO
S25
PERFORM NO PROCESSING
S26
INTERVAL SCAN ON/OFF?
YES
S32
INTERVAL SCAN ON/OFF PROCESSING
NO
S27
PERFORM NO PROCESSING
CALIBRATION PROCESSING
S28
AUTO SCAN ON/OFF PROCESSING
S29

FIG. 5

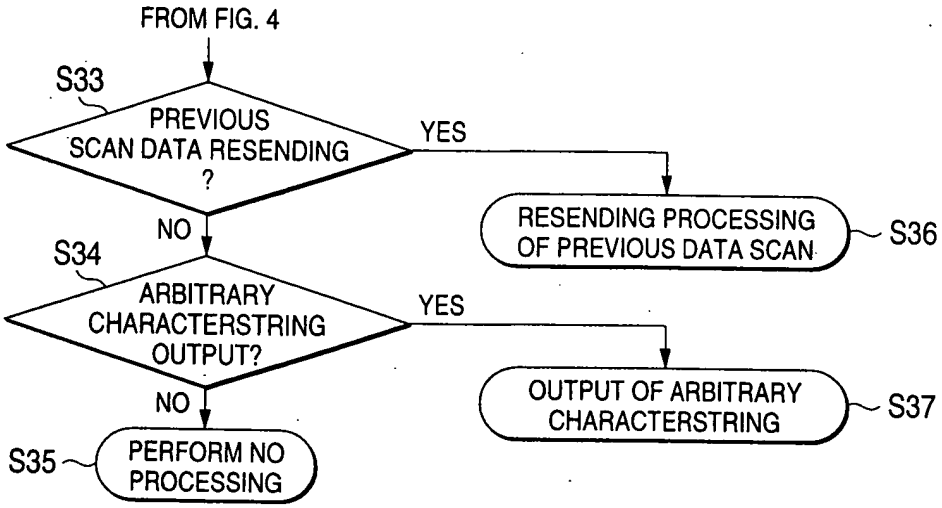
FROM FIG. 4
S33
PREVIOUS SCAN DATA RESENDING ?
YES
RESENDING PROCESSING OF PREVIOUS DATA SCAN
S36
NO
S34
ARBITRARY CHARACTERSTRING OUTPUT?
YES
OUTPUT OF ARBITRARY CHARACTERSTRING
S37
NO
S35
PERFORM NO PROCESSING

FIG. 6

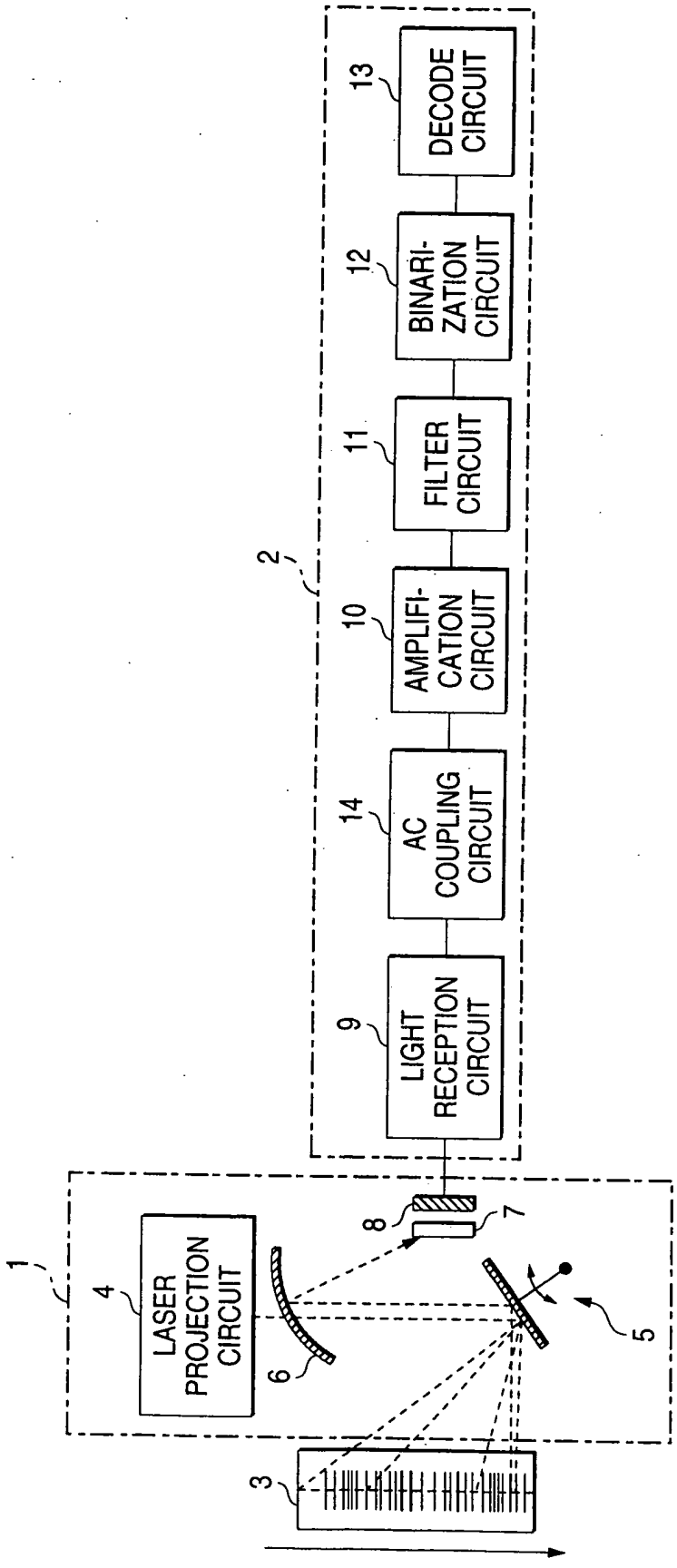
1
2
3
4
LASER PROJECTION CIRCUIT
5
6
7
8
9
LIGHT RECEPTION CIRCUIT
14
AC COUPLING CIRCUIT
10
AMPLIFI-CATION CIRCUIT
11
FILTER CIRCUIT
12
BINARI-ZATION CIRCUIT
13
DECODE CIRCUIT

FIG. 7A

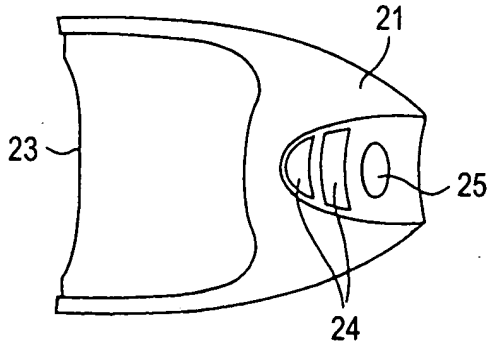

FIG. 7B

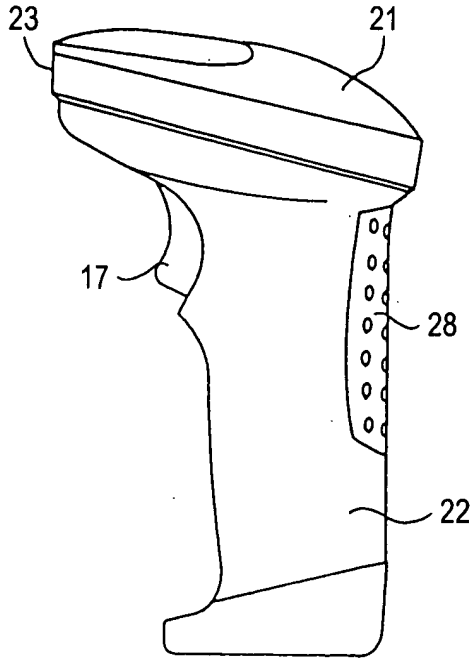

FIG. 7C

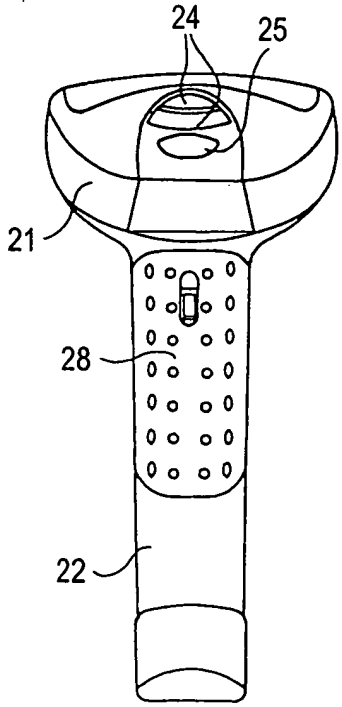

FIG. 8

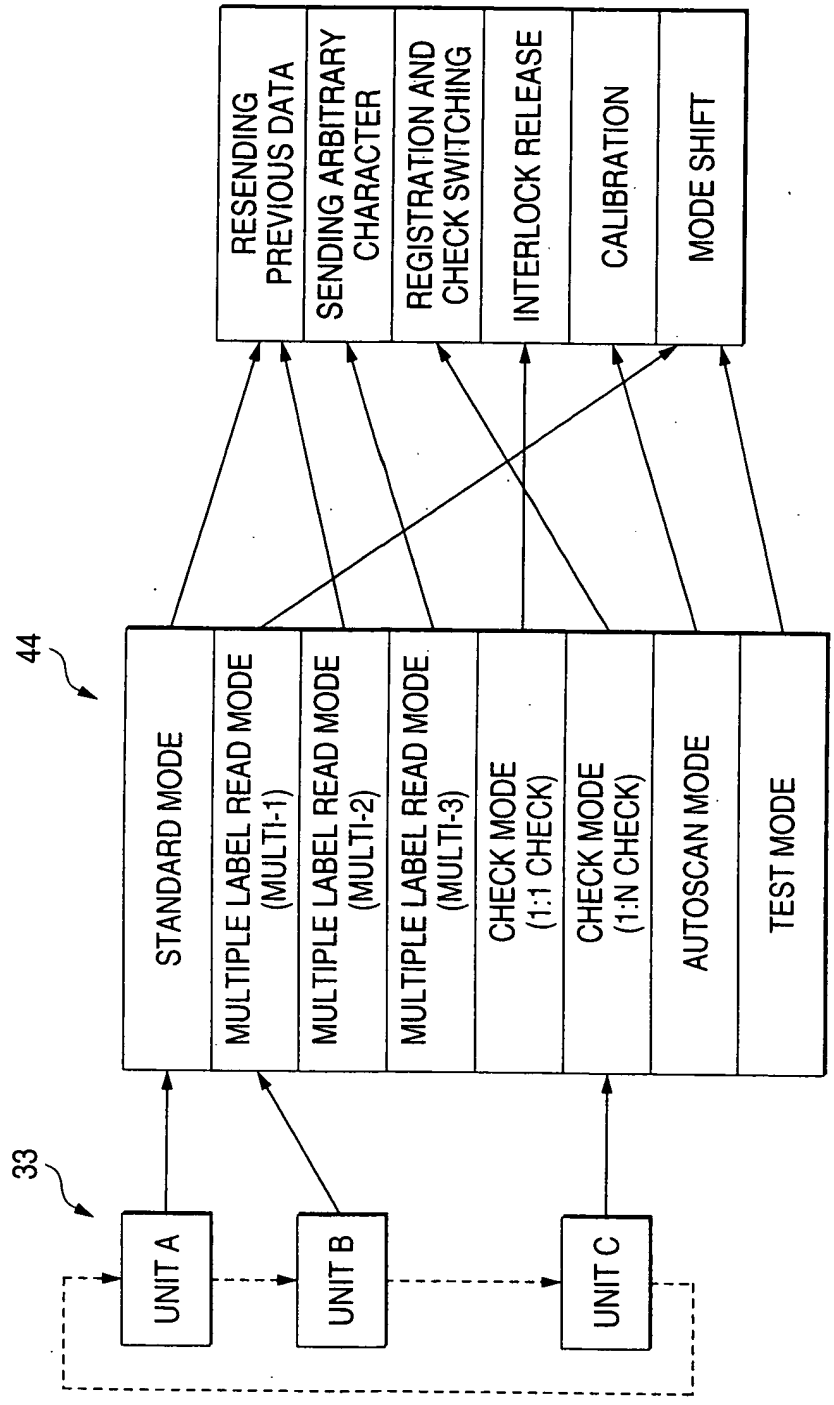
33
UNIT A
UNIT B
UNIT C
44
STANDARD MODE
MULTIPLE LABEL READ MODE (MULTI-1)
MULTIPLE LABEL READ MODE (MULTI-2)
MULTIPLE LABEL READ MODE (MULTI-3)
CHECK MODE (1:1 CHECK)
CHECK MODE (1:N CHECK)
AUTOSCAN MODE
TEST MODE
RESENDING PREVIOUS DATA
SENDING ARBITRARY CHARACTER
REGISTRATION AND CHECK SWITCHING
INTERLOCK RELEASE
CALIBRATION
MODE SHIFT

FIG. 9

OPERATION MODE / OPERATION FUNCTION	STANDARD MODE	MULTIPLE LABEL READ MODE (MULTI-1)	MULTIPLE LABEL READ MODE (MULTI-2)	MULTIPLE LABEL READ MODE (MULTI-3)	CHECK MODE (1:1 CHECK)	CHECK MODE (1:N CHECK)	AUTOSCAN MODE	TEST MODE
RESENDING PREVIOUS SCAN DATA	○	×	○	○	×	×	×	×
SENDING SETUP ARBITRARY CHARACTER	○	×	○	○	×	×	×	×
REGISTRATION AND CHECK SWITCHING	×	×	×	×	×	○	×	×
INTERLOCK RELEASE	×	×	×	×	○	○	×	×
CALIBRATION	×	×	×	×	×	×	○	×
MODE SHIFT	○	○	○	○	○	○	○	○